Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

Claims 1-5 are cancelled.

6. (NEW) A multipoint-to-point, orthogonal frequency division multiplexing (OFDM) communication system, the system comprising:

a multipoint-to-point host unit;

a plurality of remote units communicatively coupled to the multipoint-to-point host unit;

wherein the plurality of remote units communicate with the multipoint-to-point host unit using a plurality of orthogonal tones within an OFDM waveform; and

wherein the plurality of remote units are synchronized such that the plurality of orthogonal tones in the OFDM waveform are orthogonal at the multipoint-to-point host unit.

7. (NEW) The system of claim 6, wherein the multipoint-to-point host unit estimates a timing error for at least one of the plurality of remote units and transmits a timing adjustment to the at least one of the plurality of remote units to synchronize the at least one of the plurality of remote units.

8. (NEW) The system of claim 6, wherein the multipoint-to-point host unit estimates a frequency error in a carrier of at least one of the plurality of remote units and transmits a frequency adjustment to the at least one of the plurality of remote units to synchronize the at least one of the plurality of remote units.

9. (NEW) The system of claim 6, wherein the multipoint-to-point host unit estimates an amplitude error in a carrier of at least one of the plurality of remote units and transmits an

amplitude adjustment to the at least one of the plurality of remote units to synchronize the at least one of the plurality of remote units.

10. (NEW) A system comprising:

a host unit; and

a plurality of remote units that use a multiple access scheme to transmit on a radio frequency carrier using orthogonal frequency division multiplexing (OFDM) so that transmissions from the plurality of remote units are received at the host unit synchronized within an OFDM waveform.

11. (NEW) The system of claim 10, wherein in the multiple access scheme, the host unit receives at least a portion of transmissions from at least two of the plurality of remote units at the same time.

12. (NEW) The system of claim 10, wherein the multiple access scheme is a time division multiple access scheme.

13. (NEW) The system of claim 10, further comprising a distribution network wherein the host unit communicates with the plurality of remote units using the distribution network, wherein the distribution network comprises a hybrid fiber coax network.

14. (NEW) The system of claim 10, further comprising a distribution network wherein the host unit communicates with the plurality of remote units using the distribution network, wherein the distribution network comprises a wireless system.

15. (NEW) A multipoint-to-point, orthogonal frequency division multiplexing (OFDM) communication system comprising:

at least one host unit including a demodulator that demodulates upstream information from a plurality of tones within an OFDM waveform; and

a plurality of remote units, the plurality of remote units synchronously modulating the plurality of tones with the upstream information so that when received at the host unit the plurality of tones are orthogonal within the OFDM waveform.